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ANDREWS
WATER HEATERS

External

# Installation Guide, Operation and Maintenance Manual

# FASTTflo

CONTINUOUS FLOW WALL HUNG
BALANCED FLUE HEATERS FOR
NATURAL GAS AND LPG

**WHX42**
**WHX56**
**LWHX42**
**LWHX56**

**THIS MANUAL MUST BE KEPT WITH THE APPLIANCE**

November 2005 Part No. E799

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ANDREWS
WATER HEATERS

Reproduction of any information in this publication by any method is not permitted unless prior written approval has been obtained from Andrews Water Heaters.

Andrews Storage Water Heaters have been designed and manufactured to comply with current International standards of safety. In the interests of the Health and Safety of personnel and the continued safe, reliable operation of the equipment, safe working practices must be emplyed at all times. The attention of U.K. users is drawn to their responsibilities under the Health and Safety Regulations 1993.

All installation and service on the Andrews Water Heater must be carried out by properly qualified personnel, and therefore no liability can be accepted for any damage or malfunction caused as a result of intervention by unauthorised personnel.

The Andrews Water Heaters policy is one of continuous product improvement, and therefore the information in this manual, whilst completely up to date at the time of publication, may be subject to revision without prior notice.

Further information and assistance can be obtained from:

**Andrews Water Heaters**
Wednesday One, Black Country New Road
Wednesbury, West Midlands WS10 7NZ

Tel: +44 (0)121 506 7400 Fax: +44 (0)121 506 7401
Email: andrews@andrews-waterheaters.co.uk
Website: www.andrewswaterheaters.co.uk

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# SECTION 1 GENERAL AND SAFETY INFORMATION

## GENERAL INFORMATION

The Andrews Water Heater has been designed for use with NATURAL GAS and LPG and is manufactured to give an efficient, reliable and long service life.

To ensure the continued, trouble-free operation of your heater at maximum efficiency, it is essential that correct installation, commissioning, operation and service procedures are carried out strictly in accordance with the instructions given in this manual. By law, installation and commissioning of the heater must be carried out by properly qualified personnel.

The heater(s) must be installed in accordance with the following requirements;
The current GAS SAFETY (INSTALLATION AND USE) REGULATIONS
The current BUILDING REGULATIONS
The WATER SUPPLY (WATER FITTINGS) REGULATIONS 1999

Additionally, installation should be performed in accordance with all relevant requirements of the Gas Supplier, Local Authority and recommendations of the British Standards and Codes of Practice detailed below.

## IMPORTANT SAFETY INFORMATION

**Gas Safety (Installation and Use) Regulations 1998, or the rules in force.**
In your own interest and that of safety it is law that all gas appliances shall be installed by registered person in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution. Other persons should **NOT** attempt to install this equipment.

Unpack the appliance and check it carefully. If it appears to have any operating defects **DO NOT INSTALL** but contact the supplier.

This appliance is safe if correctly installed and sited. Please comply **CAREFULLY** with the instructions.

Installation **MUST** be carried out in accordance with the current issue of:

a) Building Regulations issued by the Dept. of the Environment and Building Standards (Scotland) Regulations.
b) I.E.E. Wiring Regulations for electrical installations.
c) Gas Safety (Installation and Use) Regulations (Current).
d) BS 5546:1990
e) BS 5440 Part 1:2000 and Part 2:1989
f) B56891 Part1:1989
g) BS 5482 Part 1:1989 – For Propane gas installations.
h) BS 6700
i) Local Bye Laws
j) Water Bye Laws
k) Health and Safety at Work etc. Act 1974.
l) HSE Approved code of Practice and Guidance L8 Legionnaires Disease
m) Such other specifications or legislation that may have superceded the above documents

**Please be sure you are aware of the implications of these notes.**

## HEALTH AND SAFETY REGULATIONS 1993

It is the duty of manufacturers and suppliers of products for use at work to ensure, so far as is practicable, that such products are safe and without risk to health when properly used and to make available to users, adequate information about their safe and proper operation.

Andrews Water Heaters should only be used in the manner and purpose for which they were intended and in accordance with the instructions in this manual. Although the heaters have been manufactured with paramount consideration to safety, the basic safety precautions highlighted in this manual must be observed by the user.

It is imperative that all users of the heater must be provided with all the information and instruction necessary to ensure correct and safe operation.

# Installation Manual

## GAS WATER HEATER

WHX42, LWHX42 (External)
WHX56, LWHX56 (External)

**WARNING:** If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

Potential dangers from accidents during installation and use are divided into the following three categories. Closely observe these warnings, they are critical to your safety.

| | |
|---|---|
| ⚠ **Danger** | Danger of serious injury or even death as well as danger of fire when the product is misused by ignoring this symbol. |
| ⚠ **Warning** | Possibility of serious injury or even death as well as possibility of fire when the product is misused by ignoring this symbol. |
| ⚠ **Caution** | Possibility of bodily injury or damage to property when the product is misused by ignoring this symbol. |

Prohibited

Disconnect Power

Earth

Be sure to do

## Requests to Installers

⚠ Caution
- In order to use the water heater safely, read this installation manual carefully, and follow the installation instructions.

- Failures and damage caused by erroneous work or work not as instructed in this manual are not covered by the warranty.
- Check that the installation was done properly in accordance with this Installation Manual upon completion.
- After completion of installation, be sure to hand the Operation Manual to the customer upon filling in all of the required items.

- The appliance must be installed in accordance with the Gas Safety (Installation and Use) Regulations and the rules in force in the country of installation.
- The manufacturer's instructions supplied.
- The Gas Safety (Installation and Use) Regulations.
- The appropriate Buildings Regulations either The Building Regulations, The Building Regulations (Scotland), The Building Regulations (Northern lreland).
- In IE, the installation must be carried out by a competent person and installed in accordance with the current edition of I.S.813 "Domestic Gas Installations", the current Building Regulations and reference should be made to the current ETCI rules for Electrical Installation.

SAR8285

# 1. Included Accessories

The following accessories are included with the unit. Check for any missing items before starting installation.

| Part | Shape | Q'ty | Part | Shape | Q'ty |
|---|---|---|---|---|---|
| Owner's Guide | | 1 | Installation Manual (this document) | | 1 |
| Tapping Screw | | 5 | | | |

# 2. Optional Accessories

The accessories listed below are not included with the units, but may be necessary for installation.

| Part | Shape | Q'ty | Part | Shape | Q'ty |
|---|---|---|---|---|---|
| Remote Controller | | 1 | Quick Connect Cord | | 1 |

| Item | Specification | | | |
|---|---|---|---|---|
| Model Name | WHX42 | LWHX42 | WHX56 | LWHX56 |
| Flue Type | $A_3$ | | | |
| Category | $I_{2H}$ | $I_{3P}$ | $I_{2H}$ | $I_{3P}$ |
| Electrical Consumption | 67W | 66W | 83W | 83W |
| Gas Supply Pressure | G20 20mbar | G31 37mbar | G20 20mbar | G31 37mbar |
| Max.Burner Setting Pressure | 7.3mbar | 14.8mbar | 7.3mbar | 14.8mbar |
| Min.Burner Setting Pressure | 2.7mbar | 4.9mbar | 2.7mbar | 4.9mbar |
| Max.Water Pressure | 10.0bar | 10.0bar | 10.0bar | 10.0bar |
| Min.Water Pressure | 1.0bar | 1.0bar | 1.0bar | 1.0bar |
| Max.Heat Output | 42.0kW | 42.0kW | 55.8kW | 55.8kW |
| Min.Heat Output | 4.3kW | 4.3kW | 4.3kW | 4.3kW |
| Max.Heat Input(NET) | 49.0kW | 49.0kW | 62.3kW | 62.3kW |
| Min.Heat Input(NET) | 5.0kW | 5.0kW | 5.0kW | 5.0kW |
| Destination Countries | GB&IE | GB&IE | GB&IE | GB&IE |
| IP Rate | IPX4 | | | |

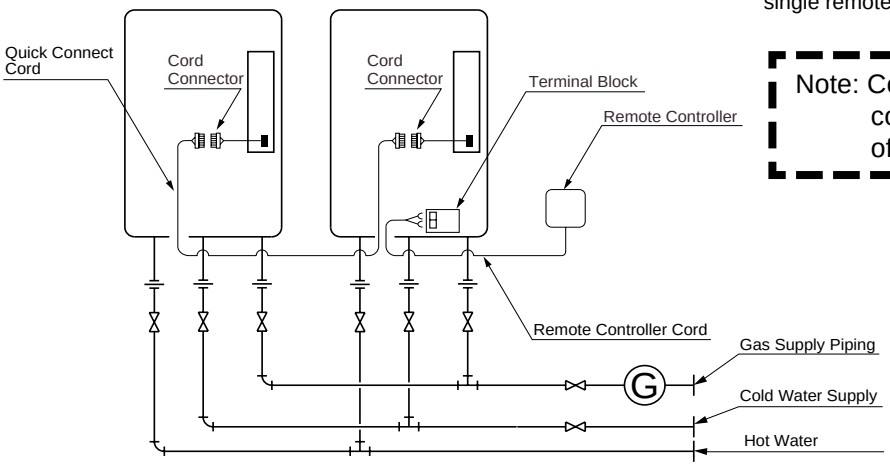
# 3. Quick Connect Multi System Installation

- The Quick Connect Multi System allows the installation of two units together utilizing only the Quick Connect Cord.

The Quick Connect Cord is 2m. long. Install the two units 470mm-950mm apart at the center to ensure the cord will be able to reach between the units. (See Typical Plumbing diagram).
(If the distance between the two units is too great, not only will the cord not be able to reach, but the water temperature may also become unstable because of the difference in pipe length between the two units.)

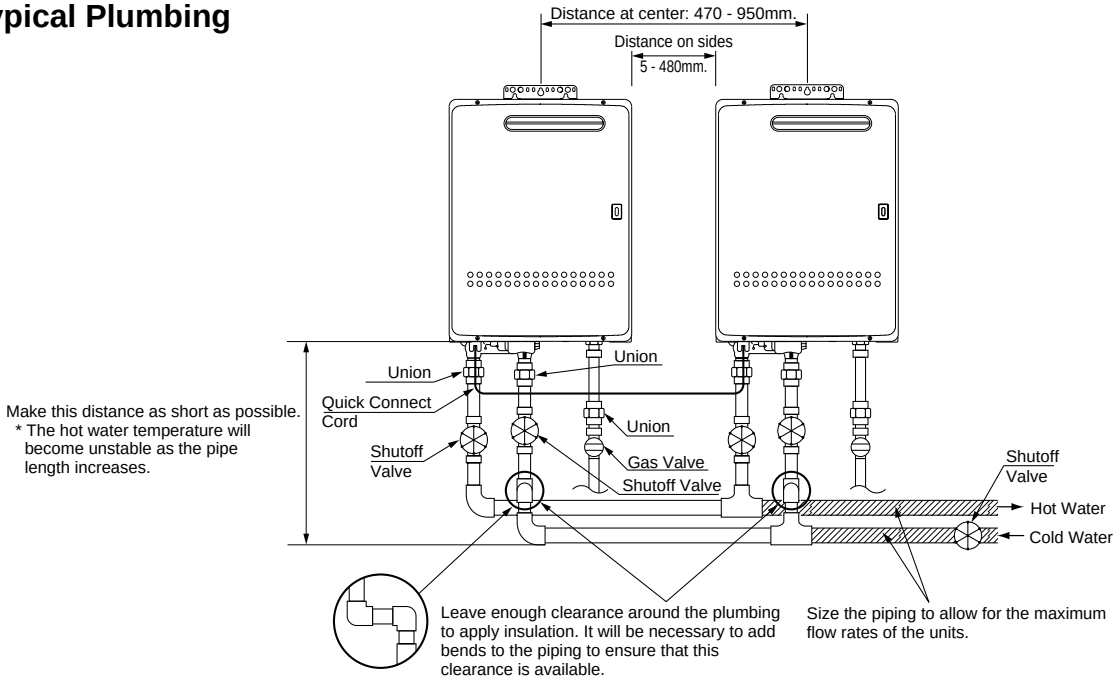
## System Diagram

* When connecting 2 devices, use only a single remote controller.




Note: Connect the remote controller to only one of the devices.

## Typical Plumbing


Distance at center: 470 - 950mm.
Distance on sides
5 - 480mm.
Union
Union
Quick Connect Cord
Union
Shutoff Valve
Gas Valve
Shutoff Valve
Shutoff Valve
Hot Water
Cold Water
Make this distance as short as possible.
* The hot water temperature will become unstable as the pipe length increases.
Leave enough clearance around the plumbing to apply insulation. It will be necessary to add bends to the piping to ensure that this clearance is available.
Size the piping to allow for the maximum flow rates of the units.

- Insulate the hot water piping to prevent heat loss. Insulate and apply heating materials to the cold water supply piping to prevent heat loss and freezing of pipes when exposed to excessively cold temperatures.

# 4. Before Installation

⚠ Caution

**Check the Gas**

- Check that the rating plate indicates the correct type of gas. Check that the gas supply line is sized for 62.3 kW for this unit.

**Check the Power**

- The power supply required is 230V AC, at 50Hz. Using the incorrect voltage may result in fire or electric shock.

**Do Not Use Equipment for Purposes Other Than Those Specified**

- Do not use for purposes other than increasing the temperature of the water supply, as unexpected accidents may occur as a result.

**Check Water Supply Quality**

- If the water supply is hard, acidic or otherwise impure, treat the water with approved methods in order to ensure full warranty coverage.

**Use Extreme Caution if Using With A Solar Pre-Heater**

- Using this unit with a solar pre-heater can lead to unpredictable output temperatures and possibly scalding. If absolutely necessary, use mixing valves to ensure output temperatures do not get to scalding levels. Do not use a solar pre-heater with the quick-connect multi-system.

**Checkup**

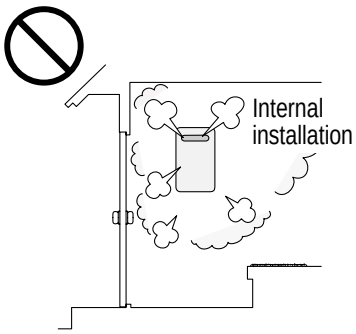
- Check the fixing brackets yearly for damage or wear. Replace if necessary.

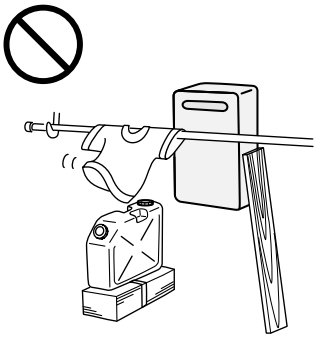
# 5. Choosing Installation Site

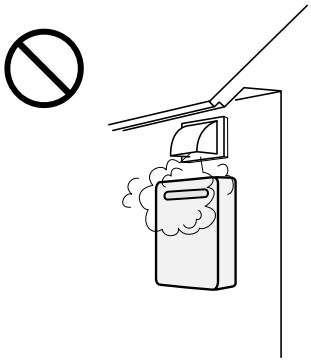
* Locate the appliance in an area where leakage from the unit or connections will not result in damage to the area adjacent to the appliance or to the lower floors of the structure. When such locations cannot be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the appliance. The pan must not restrict combustion air flow.

## ⚠ Caution

- The water heater is designed for external installation only. Never install it indoors or in a bathroom.
- Consult with the customer concerning the location of installation.
- Avoid places where fires are common, such as those where gasoline, benzene and adhesives are handled, or places in which corrosive gases (ammonia, chlorine, sulfur, ethylene compounds, acids) are present.
  This may cause incomplete combustion or failures.
- Locate the water heater so that there are no obstacles around the termination and so that exhaust can't accumulate. Do not enclose the termination with corrugated metal or other materials.
- Install the water heater in an area that allows for the proper clearances to combustible and noncombustible construction. Consult the rating plate on the appliance for proper clearances.
- Do not install the water heater in a place where it may be threatened by falling objects, such as under shelves.
- Do not install the water heater where the exhaust will blow on outer walls or material not resistant to heat. Also consider the surrounding trees and animals.
  The heat and moisture from the water heater may cause discoloration of walls and resinous materials, or corrosion of aluminum materials.
- Avoid installation in places where dust or debris will accumulate. Dust may block the air-supply opening, causing the performance of the fan motor to drop and incomplete combustion to occur as a result.
- Install in a location where the exhaust gas flow will not be affected by fans or range hoods.
- Take care that noise and exhaust gas will not affect neighbors.
- Avoid installation in places where special chemical agents (e.g., hair spray or spray detergent) are used.
  Ignition failures and malfunction may occur as a result.



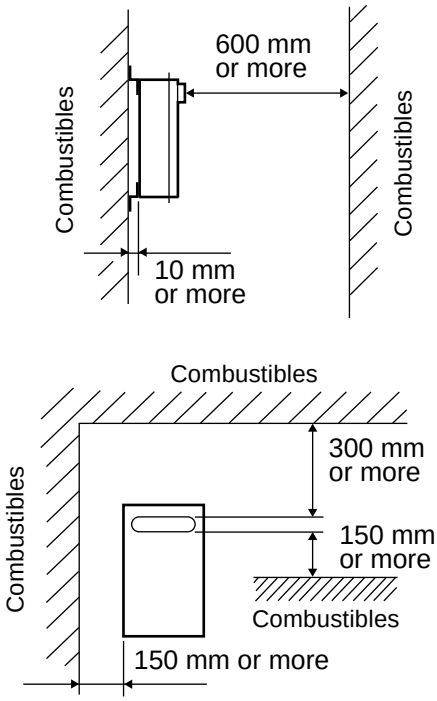
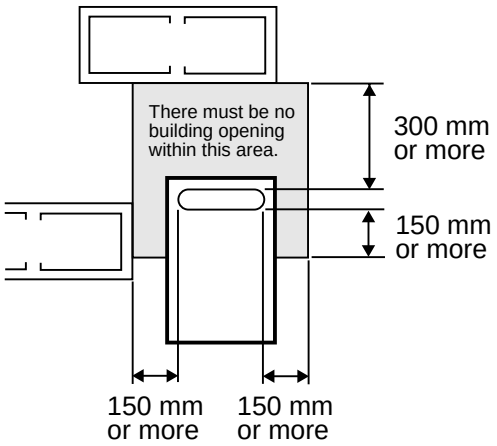





# 6. Installation Clearances ⚠ Caution

Before installing, check for the following:

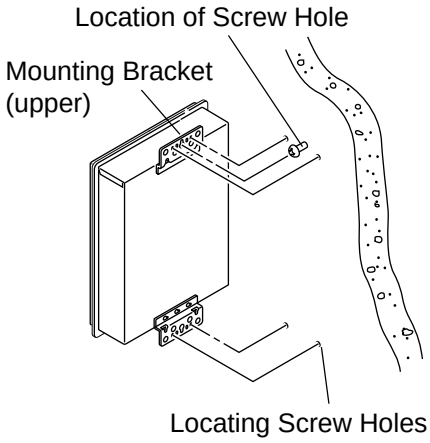
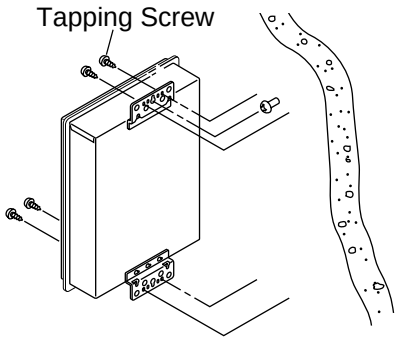
Install in accordance with relevant building and mechanical codes, as well as any local, state or national regulations.

| Item | Check | Illustration |
|---|---|---|
| Distance from combustibles | • Maintain the following clearances from both combustible and non-combustible materials. |  |
| Clearances to Opening into Any Building | • There must be a clearance of 600mm or more in front of the exhaust terminal.<br>• This restriction will not be applied to an area where an effective shield makes a clearance of 600mm or more in front of the exhaust outlet. |  |

# 7. Installation

## Securing to the wall

- The weight of the device will be applied to the wall. If the strength of the wall is not sufficient, reinforcement must be done to prevent the transfer of vibration.
- Do not drop or apply unnecessary force to the device when installing. Internal parts may be damaged and may become highly dangerous.
- Install the unit on a vertical wall and ensure that it is level.

| Item | Check | Illustration |
|---|---|---|
| Locating Screw Holes | **Caution**<br>• When installing with bare hands, take caution to not inflict injury.<br>• Be careful not to hit electrical wiring, gas, or water piping while drilling holes.<br><br>1. Drill a single screw hole, making sure to hit a stud.<br><br>2. Insert and tighten the screw and hang the unit by the upper wall mounting bracket.<br><br>3. Determine the positions for the remaining four screws (two for the top bracket and two for the bottom), and remove the unit. |  |
| Mounting | 4. Drill holes for the remaining four screws.<br><br>5. Hang the unit again by the first screw, and then insert and tighten the remaining four screws.<br><br>6. Take waterproofing measures so that water does not enter the building from screws mounting the device. |  |
| Structure | • Make sure the unit is installed securely so that it will not fall or move due to vibrations or earth-quakes. | |

**Terminal Guards**

A terminal guard is required if persons could come into contact with the terminal or the terminal could be subject to damage.

If a terminal guard is required, it must be positioned to provide minimum of 50 mm clearance from any part of the terminal and be central over the terminal.

Part number:E528, Stainless Mesh Guard
Manufacturer Details: KDS Engineering Limited
Unit 7, Moor Street Industrial Estate
Moor Street
Brierley Hill
West Midlands
England
DY5 3ST

# 8. Gas Piping

Follow the instructions from the gas supplier.

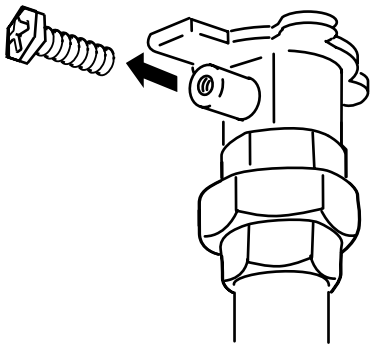
The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 35 mbar.
The Appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 35 mbar.

The appliance and its gas connections must be leak tested before placing the appliance in operation.

The inlet gas pressure must be within the range specified. This is for the purposes of input adjustment.

**Measuring Gas Pressure**

In order to check the gas supply pressure to the unit, a tap is provided on the gas inlet. Remove the hex head philips screw from the tap, and connect a manometer using a silicon tube.



## Manifold Gas Pressure Adjustment

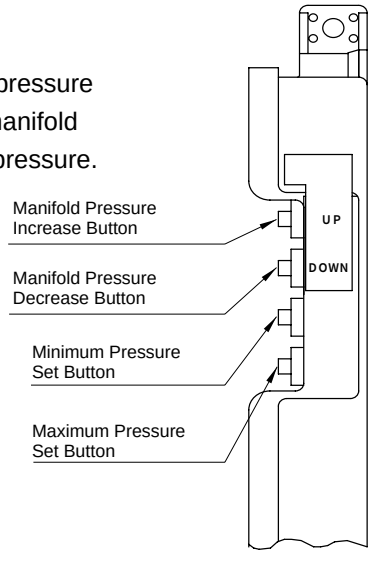
NOTE:

* Use the following procedure to adjust the manifold gas pressure only if it can be done with a high flow rate through the unit.

(1) With a manometer or pressure guage connected to the manifold pressure tap, press and hold the maximum pressure set button. Use the manifold pressure increase and decrease buttons to adjust to the correct pressure.

(2) Press and hold the minimum pressure set button. Use the manifold pressure increase and decrease buttons to adjust to the correct pressure.

(3) Repeat steps (1) and (2) until both are at the correct pressure.



# 9. Water Piping

Ask a qualified plumber to perform the installation of the plumbing. Observe all applicable codes.

This appliance is suitable for potable water. Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and replace any part of the control system and gas control which has been under water.

If the water heater is installed in a closed water supply system, such as one having a backflow preventer in the cold water supply line, means shall be provided to control thermal expansion. Contact ANDREWS WATER HEATERS TECHNICAL DEPARTMENT FOR ADVICE.

Piping and components connected to the water heater shall be suitable for use with potable water.
Toxic chemicals, such as those used for boiler treatment, shall not be introduced into the potable water.
A water heater used to supply potable water may not be connected to any heating system or components previously used with a nonpotable water heating appliance.
When water is required in one part of the system at a higher temperature than in the rest of the system, means such as a mixing valve shall be installed to temper the water to reduce the scalding hazard.

- Flush water through the pipe to clean out metal powder, sand and dirt before connecting it.
- Take appropriate heat insulation measures (e.g., wrapping with heat insulation materials, using electric heaters) according to the climate of the region to prevent the pipe from freezing.
- Use a union coupling or flexible pipe for connecting the pipes to reduce the force applied to the piping.
- Do not use piping with a diameter smaller than the coupling.
- When feed water pressure is too high, insert a depressurizing valve, or take water hammer prevention measures.
- Avoid using joints as much as possible to keep the piping simple.
- Avoid piping in which an air holdup can occur.
- Use approved piping materials.
- If installing the unit on a roof:
  If the unit is installed on a roof to supply water to the levels below, make sure that the water pressure supplied to the unit does not drop below 2000 mbar. It may be necessary to install a pump system to ensure that the water pressure is maintained at this level.
  Check the pressure before putting the unit into operation.
  Failing to supply the proper pressure to the unit may result in noisy operation, shorter lifetime of the unit, and may cause the unit to shut down frequently.

**Supply water piping**

- Do not use PVC piping.
- Mount a check valve and a shut off valve (near the inlet).
- In order for the client to use the water heater comfortably, 1000 mbar to 5000 mbar of pressure is needed from the water supply.
  Be sure to check the water pressure. If the water pressure is low, the water heater cannot perform to its full capability, and may become a source of trouble for the client.

**Drain piping**

- Expansion water may drop from the pressure prevention device and wet the floor. If necessary, provide drain piping or use a drain hose to remove the water.

**Hot water piping**

- Do not use lead or PVC piping.
- The longer the piping, the greater the heat loss. Try to make the piping as short as possible.
- Use a mixing valve with a low water resistance. Use shower heads with low pressure loss.
- If necessary, use a pump or other means to ensure that the supply water pressure to the inlet of the heater does not fall below 2000 mbar when the maximum amount of water is being demanded. Also install a pressure meter on the inlet. If this is not done, local boiling will occur inside the water heater causing abnormal sounds and decreasing the durability of the heat exchanger.

# 10. Electrical Wiring

Consult a qualified electrician for the electrical work.

Do not connect electrical power to the unit until all electrical wiring has been completed.

i) "A means of disconnection from the supply mains having a contact separation in all poles must be provided to allow for full disconnection".

ii) Under voltage Cat III conditions should be incorporated in the fixed wiring in accordance with the wiring regulations.

iii) "If the supply cord is damaged, it must be replaced by the manufacturer or its service agent".

This appliance must be electrically grounded in accordance with Electrical Authority Regulations.

External wiring must be correctly earthed, polarised and in accordance with the relevant standards.

In GB this is BS 6891.

In IE this is the current edition of I.S.813 "Domestic Gas Installations".

The boiler must be connected to a permanent 230 V ac, 50Hz supply.

Connection of the whole electrical system of the boiler, including any heating controls, to the electrical supply must be through one common isolator and must be fused 10 Amp maximum.

Isolation should be by a double pole switched fused spur box, with a minimum gap of 3 mm for both poles. The fused spur box should be readily accessible and preferably adjacent to the appliance. It should be identified as to its use.

**Caution:** Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

Field wiring to be performed at time of appliance installation.

**⚠ Caution** Do not turn on the power until the electrical wiring is finished. This may cause electrical shock or damage to the equipment to occur.

- The electrical supply required by the water heater is 230V AC at 50 Hz. The power consumption may be up to 135W. Use an appropriate circuit.
- Do not disconnect the power supply when not in use. When the power is off, the freeze prevention in the water heater will not activate, resulting in possible freezing damage.

- Do not let the power cord contact the gas piping.

Tie the redundant power cord outside the water heater. Putting the redundant length of cord inside the water heater may cause electrical interference and faulty operation.

**Ground**

- To prevent an electric shock, always plug power lead into an earth powerpoint.

**THE APPLIANCE MUST BE EARTHED**

## Remote Controller

• Applicable Model

| | | WHX42, WHX56, LWHX42, LWHX56 |
|---|---|---|
| Remote controller | Main | RC-7508M |

* Up to three remote controllers can be connected. Additional remote controllers cannot be connected by themselves.

• The remote controller must be installed in accordance with the installation manual enclosed in the package.

• Cannot be used without a remote controller.

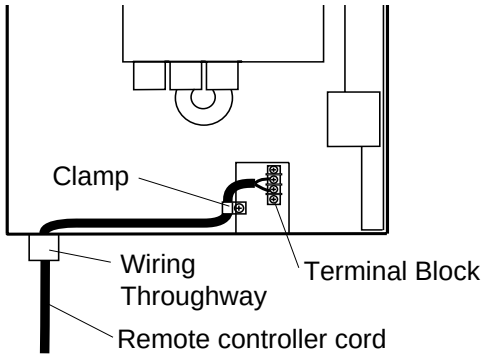
## Connecting Remote Controller Cord to Unit

- Keep the remote controller cord away from the freeze prevention heaters in the unit.
- Tie the redundant cord outside the water heater. Do not put the extra length inside the equipment.
- The remote controller cord can be extended up to 100m with Remote controller cord.
- Use a Y type terminal with a resin sleeve. (Without the sleeve, the copper wire may corrode and cause problems).
- Be sure to hand tighten when screwing to the terminal block. Power tools may cause damage to the terminal block.

## Remote controller cord

- Use Remote controller cord for any extensions.
- Install according to the National Electrical Code and all applicable local codes.

1. Remove the front cover of the heater (4 screws).
2. Pass the remote controller cord through the wiring throughway and into the unit.
3. Connect the Y terminals at the end of the remote controller cord to the terminal block.
4. Secure the remote controller cord with a clamp.
5. Replace the front cover.



# 11. Commissioning

The installer should test operate the unit, explain to the customer how to use the unit, and give the owner this manual before leaving the installation

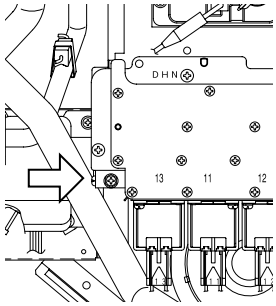
**NOTE:** The appliance has been factory set and no adjustment is necessary.

• Preparation ··· (1) Ensure all lines are purged / flushed of debris prior to connection to appliance.
(2) Open the shut off valve on the water supply, check that water passes through the valve and close the valve.
(3) Open the gas supply valve, turn on the power supply, and turn on the Operation switch on the remote controller (the Operation lamp turns on) .

(1) Open a hot water fixture and confirm that the "Burner On" lamp comes on, and that hot water is being produced. (If necessary, repeat until the air in the gas piping is bled out).
* White smoke may be noticed from the exhaust vent during cold weather. However, this is not a malfunction of the unit.
* If an “11” error code appears on the remote controller, turn the unit off and then back on again, and then open a hot water fixture again.

(2) Change the temperature setting on the remote controller and check that the water temperature changes.

(3) Check the secondary gas pressure.
The regulator on products is electronically controlled and pre-set in factory.
It does not require adjustment on installation under normal condition.
Perform the following procedure only if the unit is operating incorrectly and all other possible causes have been eliminated.
1) Turn off the gas supply.
2) Turn off power supply.
3) Remove the front panel from the appliance.
4) Attached pressure gauge to gas pressure checking point. (Fig.1)
5) Turn on the gas supply
6) Turn on power supply
7) If remote controllers are fitted, turn the unit “ON” at the kitchen controller; open a hot water tap fully.
Caution: Do not touch hot water outlet during this procedure.
8) Set the Max. and Min. gas flow rate by following the procedure about "Manifold Gas Pressure Adjustment" on page 8.
9) Check the gas pressure at checking point.
Refer to “Specification” on page 2.



(Fig.1)

• If the water heater does not operate normally, refer to “Troubleshooting” in the Operation Manual.
* After the trial operation, clean the filter in the cold water inlet.

<If installed with a quick connect multi-system>
• Turn the system power on with the remote controller.
• Slowly open a hot water fixture and check that the units ignite sequentially. Check to see that the hot water temperature is the same as the temperature displayed on the remote controller. (*1)

* If inlet water temperature is high, and both units do not ignite at the same time, switch which unit will ignite first by pressing the Max. or Min. Manifold Pressure Set Button on the circuit board and then confirm each unit can ignite. (*2)

| | | |
|---|---|---|
| Unit A Ignites<br>Unit B Doesn't Ignite | Press Max. or Min. Manifold Pressure Set Button on Unit B → | Unit A Doesn't Ignite<br>Unit B Ignites |

* If an 11 or F11 error code flashes on the remote controller, hit the Power Button on the remote controller off and on 2-3 times.
* If (*1) and (*2) cannot be done, the Quick Connect Cord may not be properly connected. Check that the cord is properly connected.

## ⚠ Caution

**Handling after trial operation**

• In Freezing areas: If the unit will not be used immediately, close off all gas and water shutoff valves, drain all of the water out of the unit and the plumbing system to prevent the unit and system from freezing, and bleed the gas out of the gas line.
Freezing is not covered by the warranty.

## Lighting Instructions

This water heater does not have a pilot. It is equipped with an ignition device that automatically lights the burner.

1. Read the safety information in the installation manual or on the front of the water heater.
2. Turn off all electrical power to the unit.
3. Do not attempt to light the burner by hand.
4. Turn the gas control manual valve (external to the unit) clockwise to the off position.
5. Wait five minutes to clear out any gas. If the smell of gas remains, stop, and follow the instructions on page 4 of this manual.
6. Turn the gas control manual valve counterclockwise to the on position.
7. Turn on electric power to the unit.
8. The unit will now operate whenever hot water is called for. If the unit will not operate, follow the shutdown instructions and call a service technician.

## Shutdown Instructions

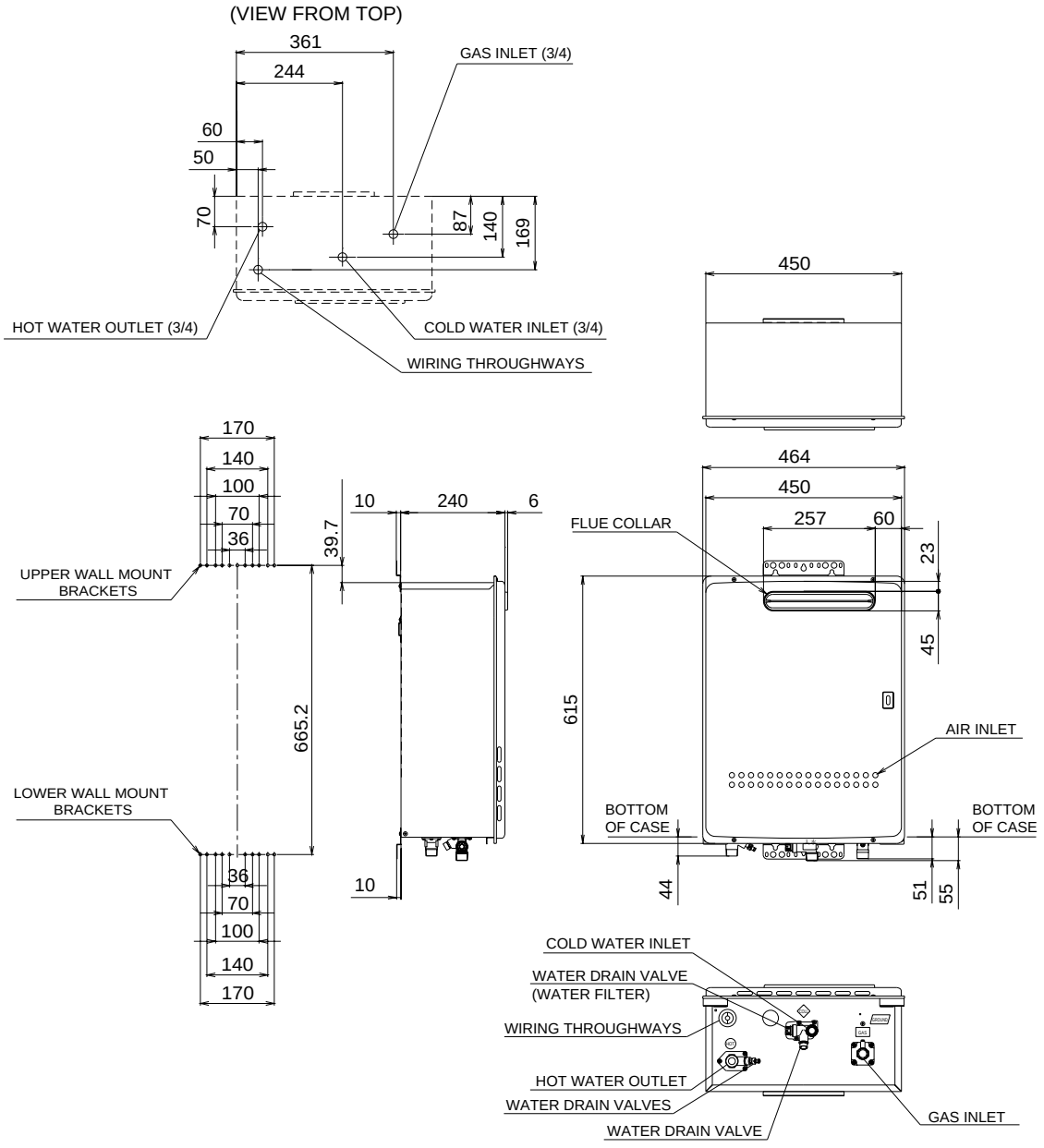
1. Stop any water demand.
2. Turn off electric power.
3. Turn the gas control manual valve clockwise to the off position.

Should overheating occur, or the gas supply fail to shut off, turn off the gas control manual valve to the appliance.

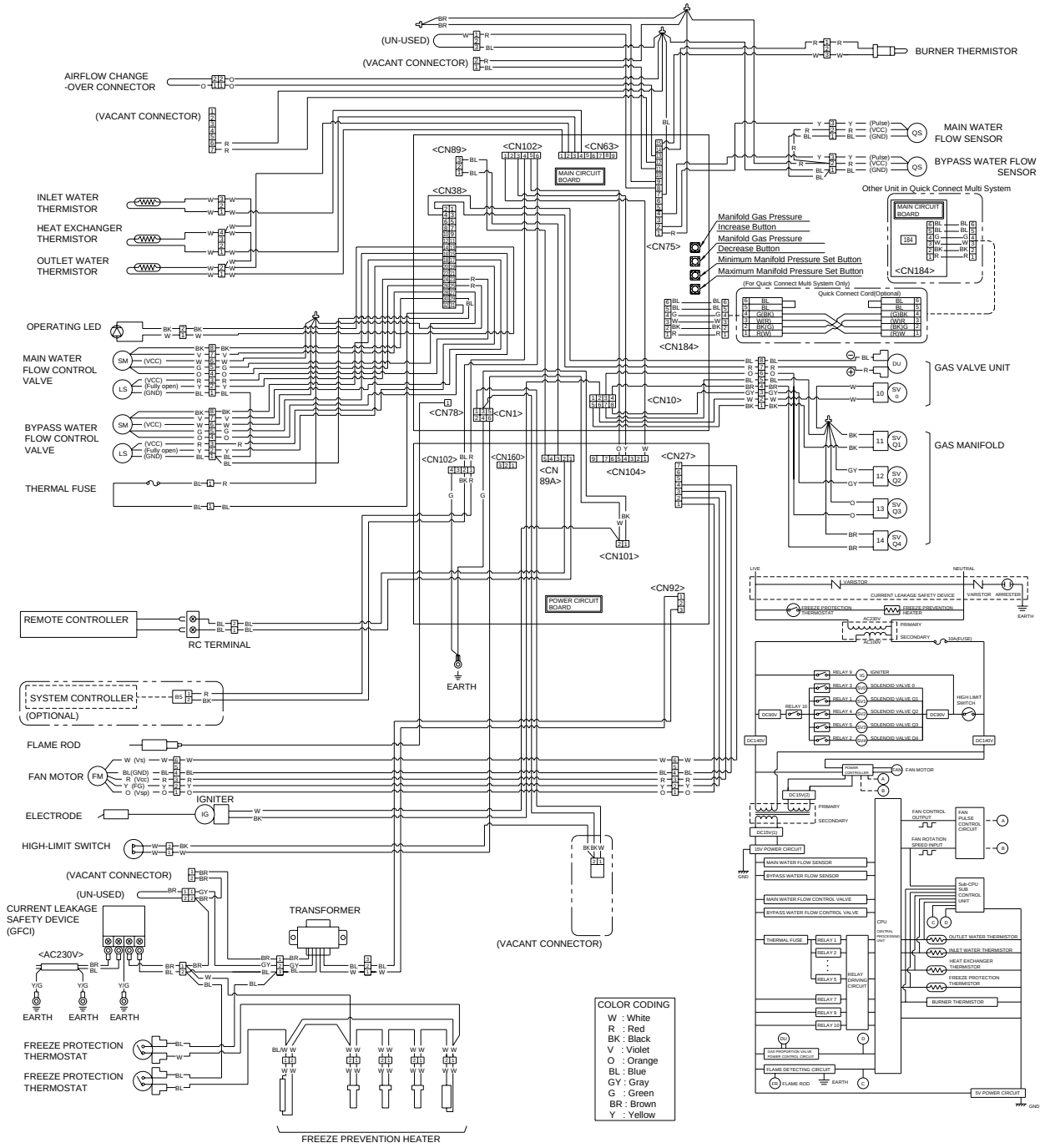
# 12. Dimensions

**WHX42, WHX56, LWHX42, LWHX56**

(unit: mm)



# Wiring Diagram (WHX42, WHX56, LWHX42, LWHX56)



# 13. Optional Accessories Guide

**For Installers:**
Read this installation guide carefully before carrying out installation.

## Remote Controller Installation Manual

Model Number: RC-7508M

**Note**

Do not connect power to the water heater before the remote controller has been properly installed.

## Included Accessories

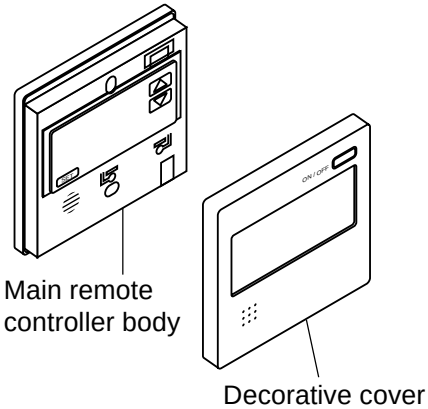
| Part | Shape | Q'ty | Part | Shape | Q'ty |
|---|---|---|---|---|---|
| Remote Controller | | 1 | Cross recessed flat-head screw | | 2 |
| Cross recessed flat-head wood screw | | 2 | Oar plug | | 2 |

## Remote Controller Installation Procedure

(1) Remove the decorative cover.
(The decorative cover is attached very simply.)

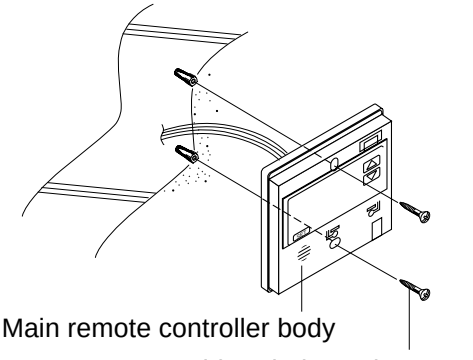
Connect the Y-shaped terminal to the terminal block at the back of the remote controller.

* In the case of exposed wiring (attachment to the wall), first open up the cord intake on the main remote controller body using pliers. (Take care not to damage the board in the process.)




(2) Position the holes (diameter: 6 mm X depth: 25 - 30 mm) to secure the remote controller for the kitchen, and knock in all the rawlplugs. Next, secure it using oval-headed wood screws.

* The screws must be tightened manually, and the remote controller secured properly without rattling.




(3) Replace the decorative cover.

# 14. Servicing

**Important Notes**

To ensure the continued efficient and safe operation of the boiler it is recommended that it is checked and serviced at regular intervals. The frequency of servicing will depend upon the particular installation and usage, but in general once a year should be enough.

It is the Law that any servicing is carried out by a competent person.

When replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by NORITZ.

Before commencing with a service or replacement of parts the boiler should be isolated from the electrical supply and water supply and the gas supply should be turned off at the gas service cock.

All routine servicing requirements can be achieved by the removal of the front panel only. Remove the four screws on the front panel and lift off.

For access inside the appliances screwdriver can be used.

To remove chassis front.

Unless stated otherwise any part removed during servicing should be replaced in the reverse order to removal.

Servicing should always include the removal of any debris from the condensate pipe and siphon.

After completing any servicing of gas carrying components, ALWAYS test for gas soundness and carry out a functional test of the controls.

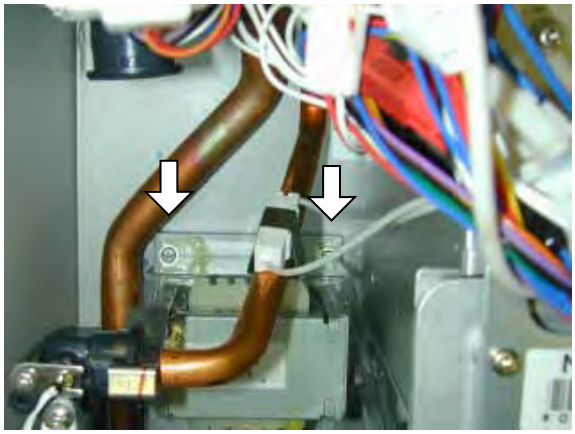
It is not necessary for the burner parts and heat exchanger parts to be cleaned up.

# 15. Disassembly of each part

1. Removing the transformer

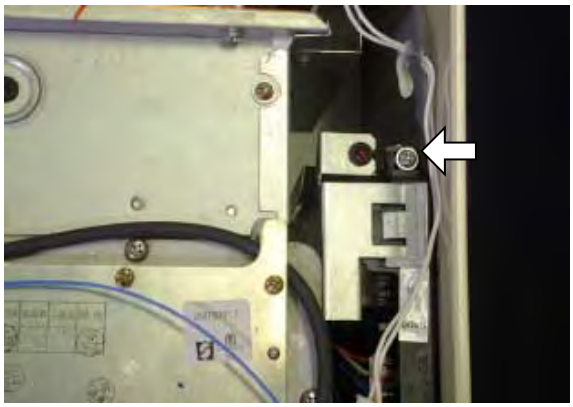
(1) Remove the 2 quick fasteners and remove the bypass pipe.

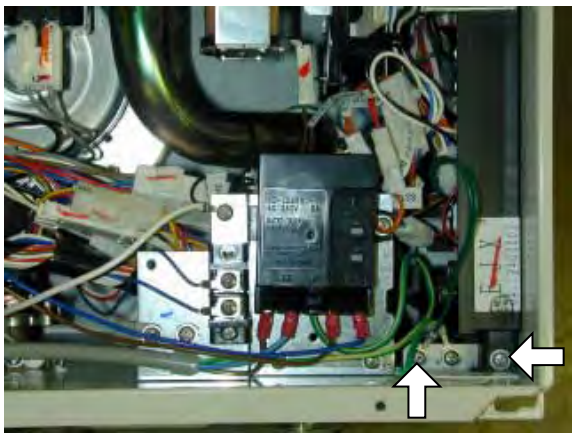
(2) Remove the 2 locking screws of the transformer, then pull out.



## 2. Removing the electric board

(1) Remove the locking screws at the top and bottom and ground screw, then pull board out.

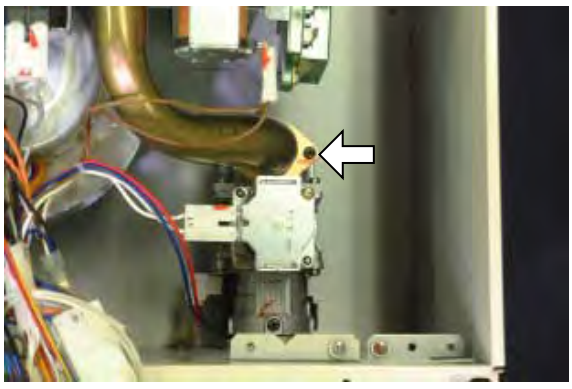




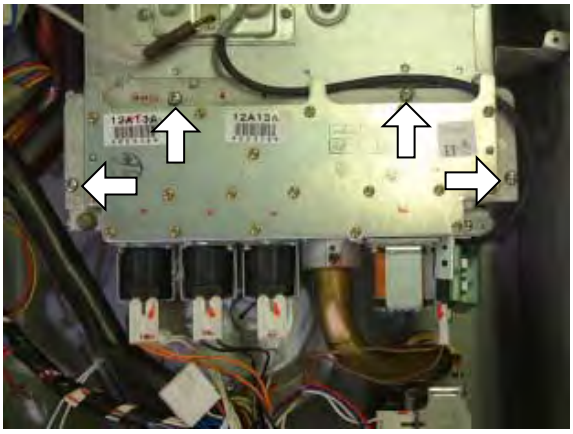
## 3. Removing the manifold

- Remove the electric board and fixing plate of the ground-fault circuit interrupter in advance.

(1) Remove the locking screw of the gas electromagnetic valve and the manifold pipe.



(2) Remove the fasten terminal of the gas electromagnetic valve, then remove the 4 manifold locking screws.

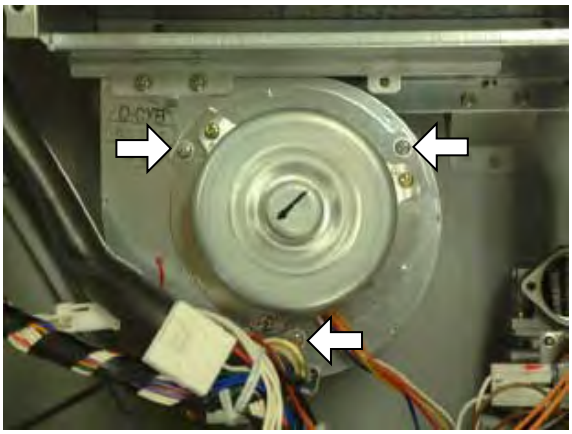


(3) Pull up and remove the manifold.

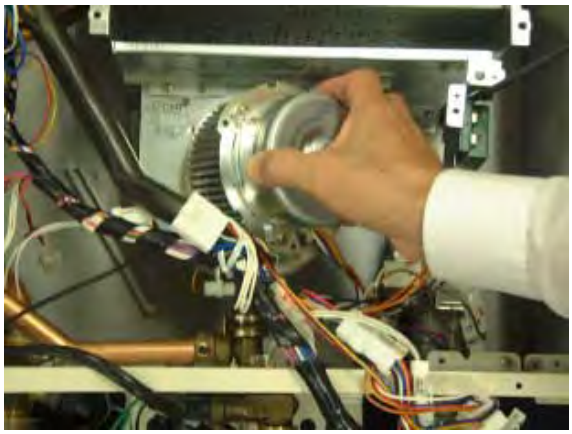
## 4. Removing the hot-water supply fan

• Remove the electric board, manifold and intake gas pipe in advance.

(1) Remove the 3 fan locking screws, then pull out.



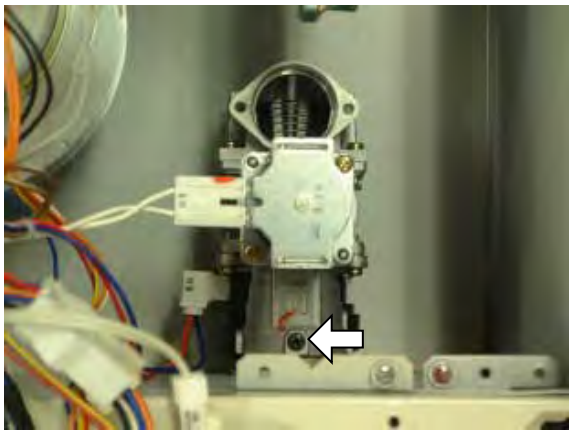
(2) Pull out the fan motor.



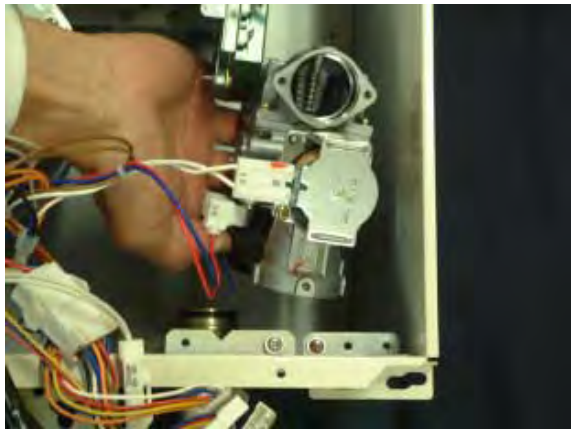
## 5. Removing the gas electromagnetic valve block

• Remove the electric board and manifold in advance.

(1) Remove the gas electromagnetic valve locking screw.



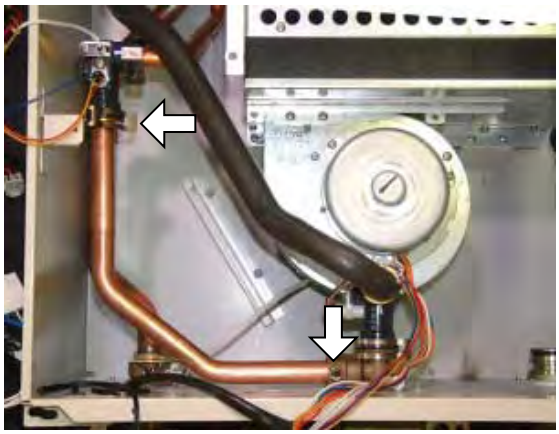
(2) Pull up the gas electromagnetic valve to the upper section and remove it.



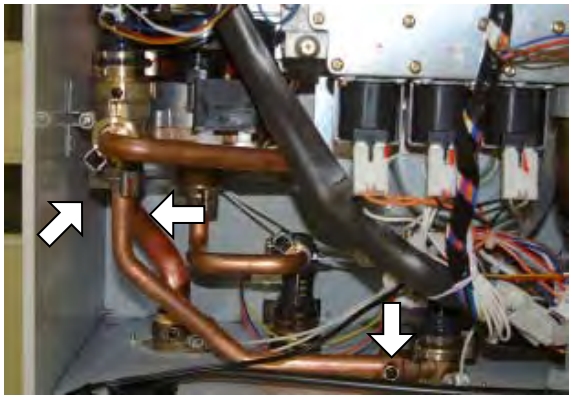
## 6. Removing the mixing tube block

• Remove the electric board and connectors in advance.

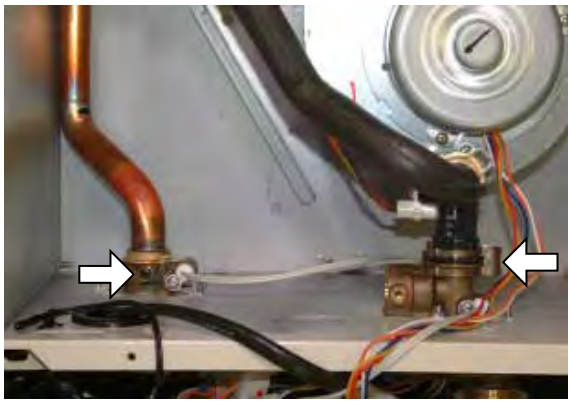
(1) Remove the locking screw of the intake water pipe and the locking quick fastener of water flow sensor set 3 of the heat exchanger, then pull out the intake water pipe.



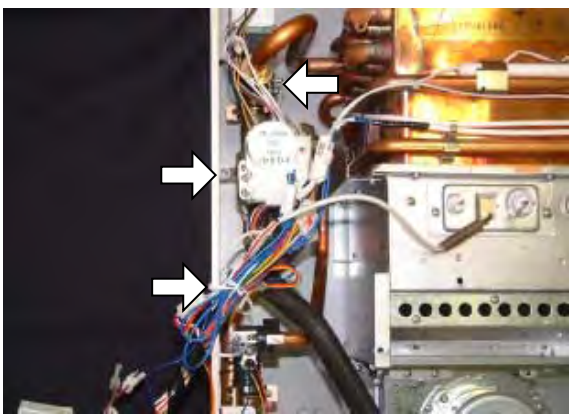
■ For Quick-discharge type
Remove the intake water pipe locking screw and 2 locking fasteners of the non-return valve, then remove the intake water pipe and pull out the pump discharge pipe.



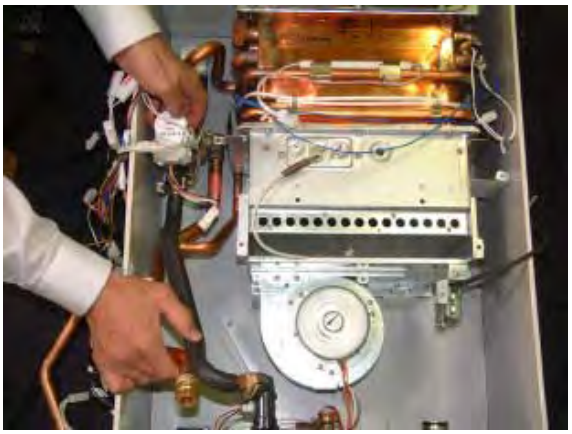
(2) Remove the quick fastener of the water flow sensor set 1 and the discharge hot-water pipe locking screw.



(3) Remove the connecting quick fasteners of the water flow sensor set 3 adjustment valve and the water flow servo set 2, and the mixing body block locking screw.



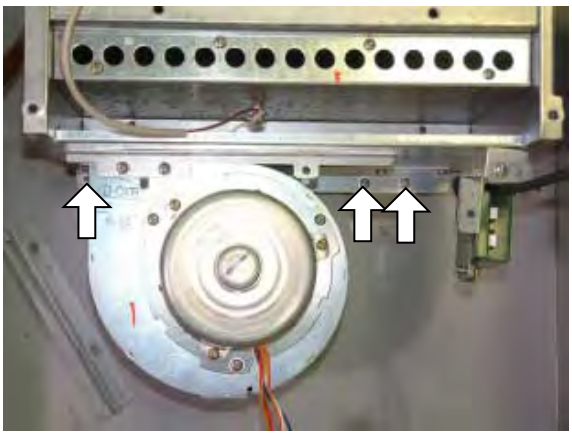
(4) Pull up the mixing tube block to the upper section and remove it.



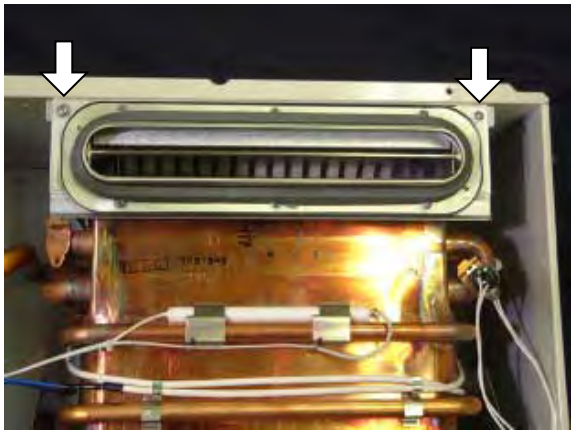
## 7. Removing the heat exchanger

- Remove the electric board, manifold, mixing tube block and connectors in advance.

(1) Remove the 3 locking screws at the bottom of the burner case.

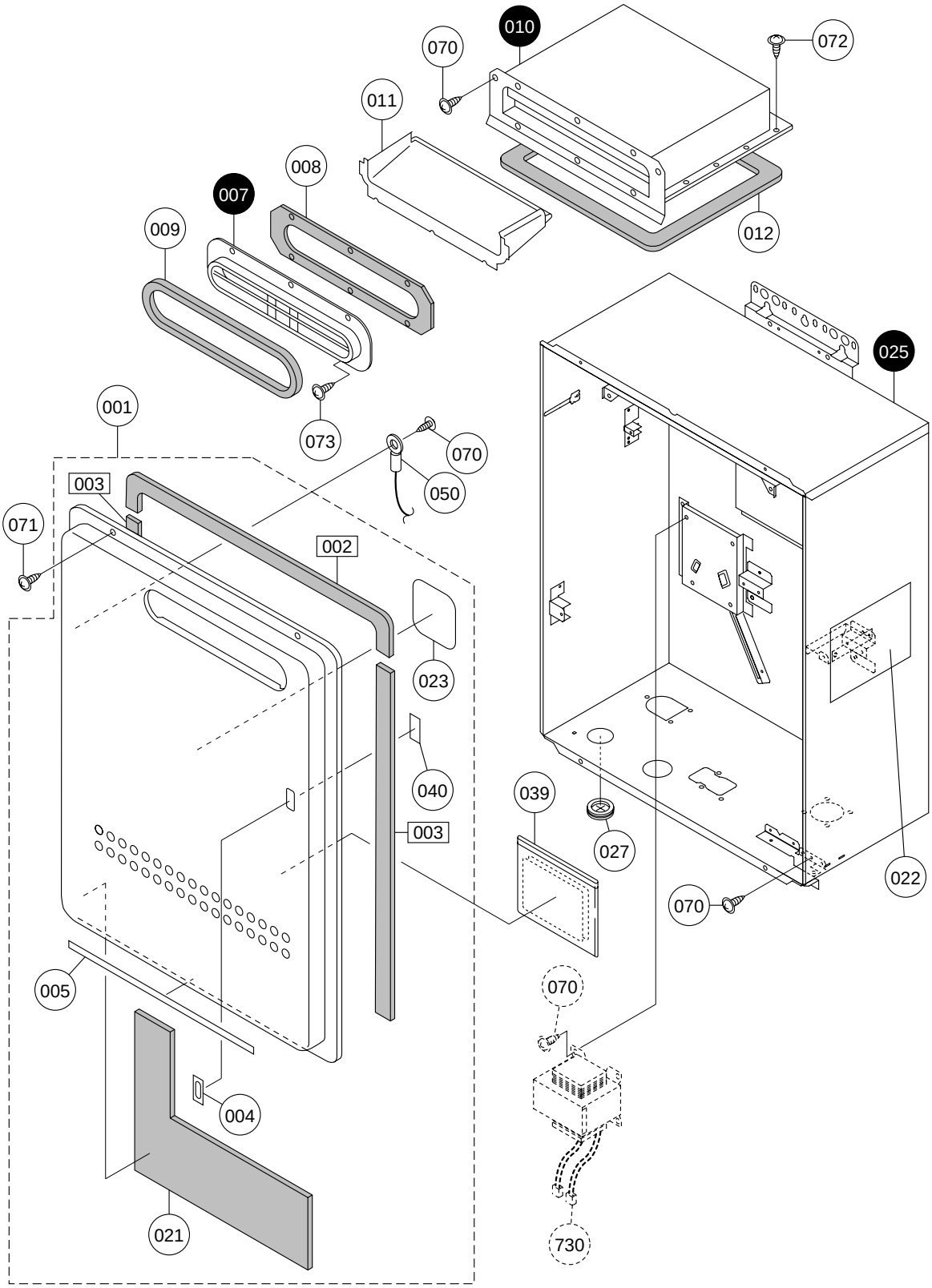


(2) Remove the 2 case top plate locking screws.



# 16. Servicing parts lists

## External outfitting WHX42AD,WHX56AD



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## External outfitting WHX42AD,WHX56AD

| Part Nos. | Part Names | Order Nos. | Q'ty/unit |
|---|---|---|---|
| 001 | WHX56AD Front set-AS | SKA7262 | 1 |
| 002 | Front packing S AAP | AAPL015 | 1 |
| 003 | Front packing L AAP | AAPL017 | 2 |
| 004 | Lamp seal plate DEC | DECK008 | 1 |
| 005 | Piping label EDM | EDMK004 | 1 |
| 007 | Exhaust top W ELE | ELEF005 | 1 |
| 008 | Exhaust box flange packing CRP | CRPL007 | 1 |
| 009 | Front top packing Q CZR | CZRL001 | 1 |
| 010 | Exhause box SET DHN | DHNF001 | 1 |
| 011 | Exhaust box silencer board CRP | CRPF012 | 1 |
| 012 | Exhaust joint packing DHN | DHNL003 | 1 |
| 021 | Acoustic foam 1 DHN | DHNL006 | 1 |
| 022 | Caution label W AD ELE | ELEK062 | 1 |
| 023 | Plug insulation sheet CRU | CRUK002 | 1 |
| 025 | Case W AD ELE | ELEA006 | 1 |
| 027 | Cord bushing C1 | 7355009 | 1 |
| 039 | Connection diagram label AD ELE | ELEK063 | 1 |
| 040 | Raintight seal plate BUB | BUBK004 | 1 |
| 050 | Connecting cord 2 DMB | DMBJ010 | 1 |
| | | | |
| 070 | Cross recessed round-head collar N-tapping screw 4X8 | SAD6181 | |
| 071 | Cross recessed truss type3 EVERTIGHT tapping screw with PW 4X12 | SAB6510 | |
| 072 | Cross recessed round-head collar N-tapping screw 4X10 | SAD6182 | |
| 073 | Cross recessed round-head collar N-tapping screw 4X12 | SAD6183 | |
| 075 | Cross recessed round-head collar type3 EVERTIGHT tupping screw 4X12 | SAD6453 | |
| | | | |
| | | | |
| | | | |
| | | | |
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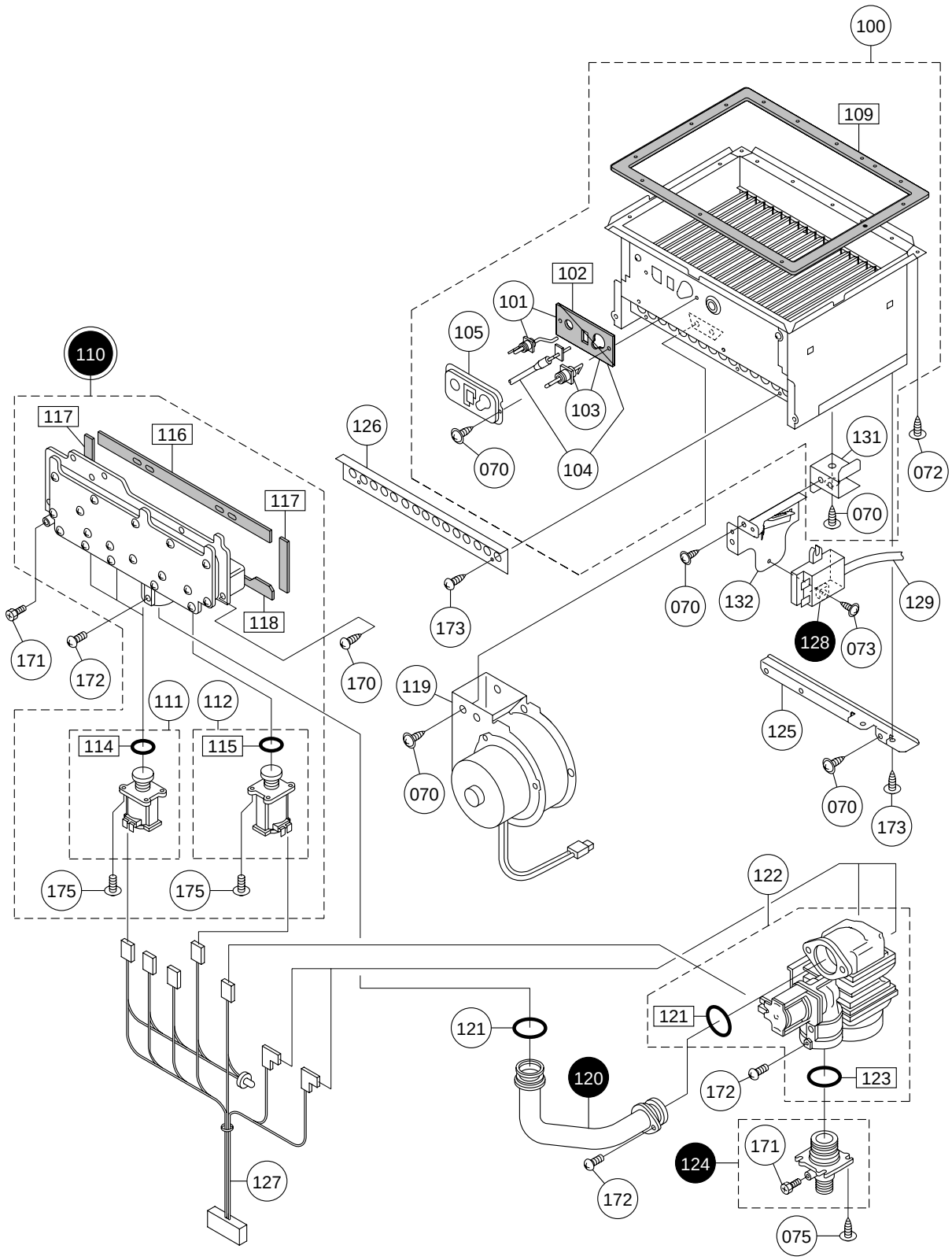
## Combustion unit and gas route WHX42AD,WHX56AD



## Combustion unit and gas route WHX42AD,WHX56AD

| Part Nos. | Part Names | Order Nos. | Q'ty/unit |
|---|---|---|---|
| 100 | Combustion tube set EAC SET-V | SBP7302 | 1 |
| 101 | Flame rod DLK SET-V | SBA7506 | 1 |
| 102 | Plug packing(for N) DLK | DLKL012 | 1 |
| 103 | Ignition plug Q(N)SET-V | SBA7504 | 1 |
| 104 | Burner sensor DLK SET-V | SBA7505 | 1 |
| 105 | Plug fixing plate(for N) DLK | DLKC009 | 1 |
| 109 | Suction air joint packing DHN | DHNL002 | 1 |
| 110 | Manifold set 15 DHN SET-AS | SAR7812 | 1<3P> |
| | Manifold set 24 DHN SET-AS | SAR7574 | 1<2H> |
| 111 | Solenoid S16L CRU SET-AS | SAQ7346 | 3 |
| 112 | Solenoid S24L CRU SET-AS | SAQ7406 | 1 |
| 114 | O-ring S30 type 1A | SAD6433 | 3 |
| 115 | O-ring S-38 | SAD6372 | 1 |
| 116 | Manifold seal packing top CRP | CRPL002 | 1 |
| 117 | Manifold seal packing side CRP | CRPL004 | 2 |
| 118 | Manifold seal packing bottom CRP | CRPL003 | 1 |
| 119 | Fan moter Q CXB | CXBF030 | 1 |
| 120 | Manifold pipe DHN | DHNE015 | 1 |
| 121 | O-ring P25.5 | SAB1512 | 2 |
| 122 | Gas mech. S24DQ CRP SET-V | SAQ7708 | 1 |
| 123 | O-ring JASO 2028A | 8590109 | 1 |
| 124 | Gas fitting 20ASET ELE | ELEE001 | 1 |
| 125 | Mounting plate for burner case DLT | DLTC001 | 1 |
| 126 | Main damper 11 CRP | CRPC052 | 1 |
| 127 | Conduit R10 DEK | DEKJ014 | 1 |
| 128 | Igniter AGV | AGVJ007 | 1 |
| 129 | High-voltage cord 470 | SAC1229 | 1 |
| 131 | Mounting plate for igniter EAC | EACC011 | 1 |
| 132 | Mounting plate for igniter DTJ | DTJA015 | 1 |
| | | | |
| 170 | Cross recessed round-head type3 EVERTIGHT tapping screw 5X16 | SAB6001 | |
| 171 | Cross recessed hexagon head machine screw | SAC6082 | |
| 172 | Cross recessed round-head machine screw M4X8 | SAD6373 | |
| 173 | Cross recessed round-head N-tapping screw 4X8 | 6347606 | |
| 175 | Cross recessed round-head SPAKmachine screw with guide M4X12 | SAD6466 | |



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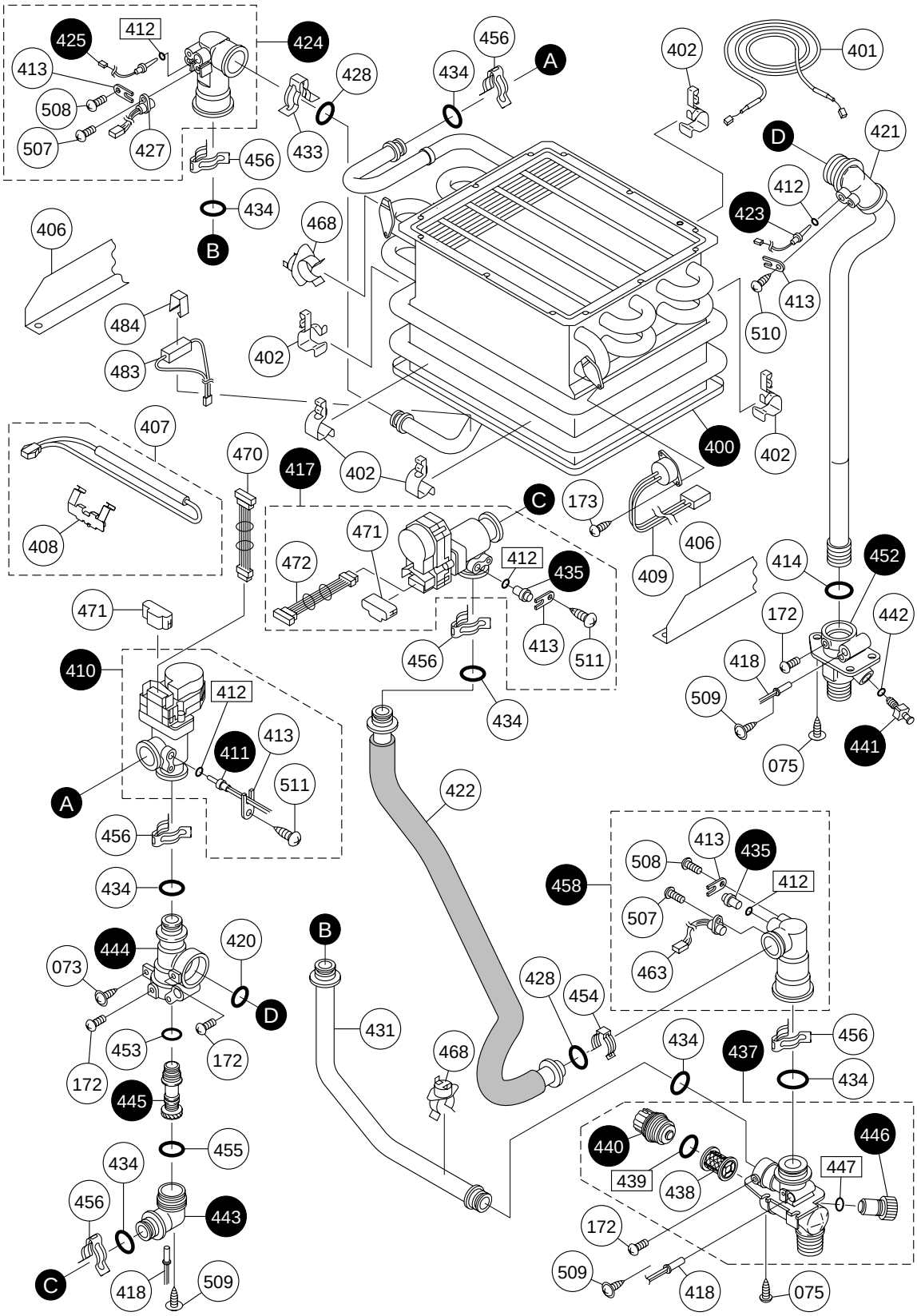
## Hot-water feed route WHX42AD,WHX56AD



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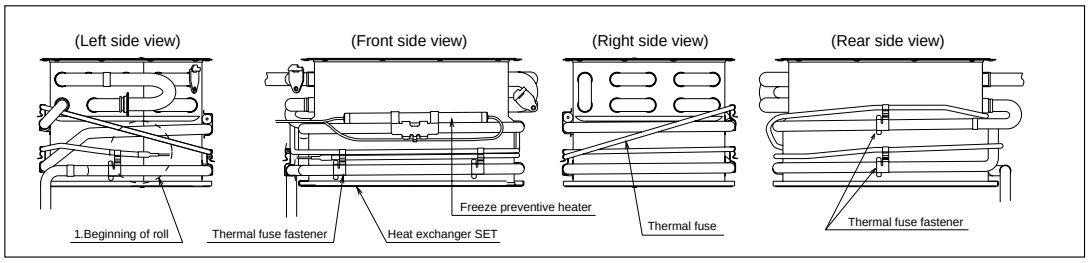
# Hot-water feed route WHX42AD,WHX56AD

(Thermal fuse rounding procedure)



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## Hot-water feed route WHX42AD,WHX56AD

| Part Nos. | Part Names | Order Nos. | Q'ty/unit |
|---|---|---|---|
| 400 | Heat exchanger EJM SET-AS | SKA7139 | 1 |
| 401 | Thermal fuse DHN SET-V | SBA7398 | 1 |
| 402 | Thermal fuse fastener CXD | CXDH003 | 5 |
| 406 | Thermal fuse cover DHN | DHNA014 | 2 |
| 407 | Freeze preventive heater Q DJW SET-V | SKA7037 | 1 |
| 408 | Heater fastener EHK | EHKH001 | 1 |
| 409 | Remaining flame safety device 120 DJP | DJPH002 | 1 |
| 410 | Water flow servo set 2 DZT | DZTD011 | 1 |
| 411 | Heat exchanger thermistor-300 BWC | BWCD098 | 1 |
| 412 | O-ring P4C | 1323709 | 5 |
| 413 | Thermistor holding plate ALS | ALSD088 | 5 |
| 414 | O-ring P20C | 3059502 | 1 |
| 417 | Water flow servo set 1 DZT | DZTD010 | 1 |
| 418 | Freeze preventive heater 3 DJW | DJWH003 | 3 |
| 420 | O-ring P22C | 7573308 | 1 |
| 421 | Hot-water feed pipe DHN | DHND010 | 1 |
| 422 | Bypass pipe EAC | EACD003 | 1 |
| 423 | Hot-water thermistor-300 BWC | BWCD096 | 1 |
| 424 | Water flow sensor set 3 DUV | DUVD019 | 1 |
| 425 | Water inlet thermistor-300 BWC | BWCD097 | 1 |
| 427 | Water outlet magnetic sensor BWC | BWCD090 | 1 |
| 428 | O-ring P12.5C | 3359808 | 2 |
| 431 | Water inlet pipe EAC | EACD001 | 1 |
| 433 | Quick fastener 13-22 | SAD6537 | 1 |
| 434 | O-ring P16C | 3223302 | 7 |
| 435 | Shut-off cock AXG | AXGD089 | 2 |
| 437 | Water inlet fitting 20A set EAC | EACD006 | 1 |
| 438 | Water filter (SUS) EGB | EGBD032 | 1 |
| 439 | O-ring 16DF BRQ | BRQL008 | 1 |
| 440 | Water filter cover DTJ | DTJD006 | 1 |
| 441 | Drain cock CRU | CRUD003 | 1 |
| 442 | Hot-water resistant O-ring P3 | SAD6633 | 1 |
| 443 | Mixing coupling EAC | EACD007 | 1 |
| 444 | Mixing body EAC | EACD013 | 1 |
| 445 | Mixing cylinder BWC | BWCD035 | 1 |
| 446 | QMF safety valve A(S) | SAA2811 | 1 |
| 447 | Hot-water resistant O-ring P9 | SAD6635 | 1 |
| 452 | Hot-water outlet fitting HGH | HGHD101 | 1 |
| 453 | O-ring P11C | 1326503 | 1 |
| 454 | Quick fastener 12.7 | 6340202 | 1 |
| 455 | O-ring JASO 2026 type4 C | SAA6483 | 1 |
| 456 | Quick fastener 16A | 6340300 | 6 |
| 458 | Water flow sensor set 1 DUV | DUVD017 | 1 |
| 463 | Magnetic sensor BWC | BWCD093 | 1 |
| 468 | Thermostat BVU | BVUH002 | 2 |
| 470 | Conduit 86 DZT | DZTJ008 | 1 |
| 471 | Waterproof cover CZL | CZLD041 | 2 |
| 472 | Servo motor cable conduit (86) DZT | DZTJ009 | 1 |
| 483 | Dummy heater for 240V DJW | DJWH004 | 1 |
| 484 | Heater fastener M AJB | AJBL002 | 1 |
| 507 | Cross recessed truss P TIGHT screw 4X10 | SAB6339 | |
| 508 | Cross recessed round-head P TIGHT screw 4X14 | SAA6473 | |
| 509 | Cross**&**straight recessed round-head collar type3 S TIGHT tapping screw 4X8 | SAD6455 | |
| 510 | Cross**&**straight recessed type3 S TIGHT tapping screw 4X8 | 6381600 | |
| 511 | Cross recessed round-head P TIGHT screw 4X14 | SAC6300 | |



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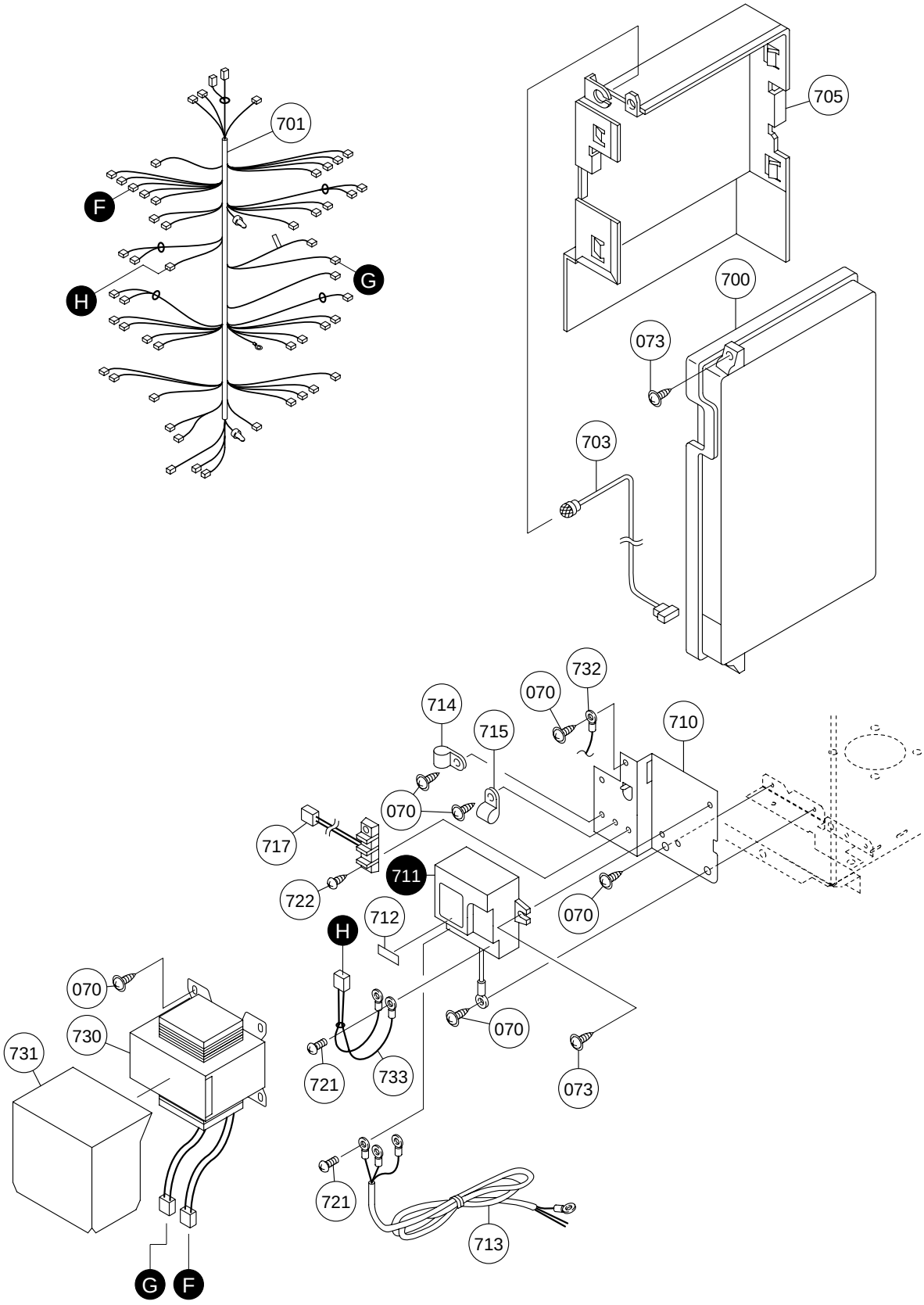
## Electronic control unit WHX42AD,WHX56AD



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## Electronic control unit WHX42AD,WHX56AD

| Part Nos. | Part Names | Order Nos. | Q'ty/unit |
|---|---|---|---|
| 700 | Relay case ELE SET-AS | SHA7826 | 1 |
| 701 | Harness AD ELE | ELEJ031 | 1 |
| 703 | Lamp cable conduit CRP | CRPJ014 | 1 |
| 705 | Relay case cover DEK | DEKA014 | 1 |
| 710 | Mounting plate for terminal block DZT | DZTA006 | 1 |
| 711 | Current leakage safety device 240 EJS | EJSJ022 | 1 |
| 712 | Neutral indication label ELE | ELEK068 | 1 |
| 713 | Power supply cord ELE | ELEJ006 | 1 |
| 714 | Nylon clamp HP-4N (NK-4N) | 7287909 | 1 |
| 715 | Nylon clamp HP-6N (NK-6N) | 5164702 | 1 |
| 717 | Conduit 90-2 CCP | CCPJ028 | 1 |
| 721 | Cross recessed bind machine screw M3.5X6 | SAC6564 | |
| 722 | Cross recessed round-head N-tapping screw 4X12 | 6347801 | |
| 730 | Transformer EJX | EJXJ021 | 1 |
| 731 | Transformer cover EJS | EJSA021 | 1 |
| 732 | Connecting cord 1 DEM | DEMJ009 | 1 |
| 733 | Conduit R92-250 EJS | EJSJ016 | 1 |
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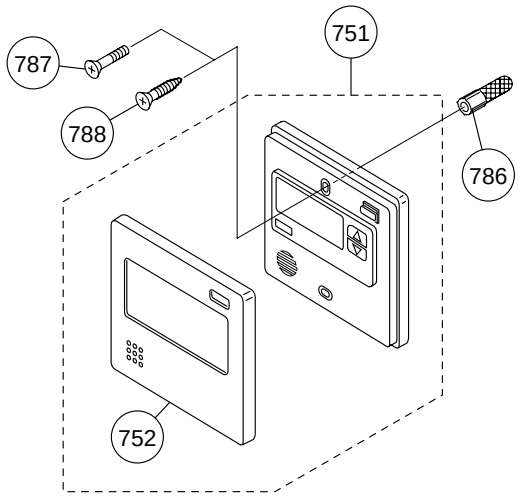
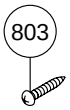
## Remote controller and Attached set WHX42AD,WHX56AD

## Remote controller

**kitchen remote controller**
**(RC-7508M)**




## Attached set




<Special part>

| Special part | Special part no. |
|---|---|
| Owner's Guide | 888 |
| installation manual | 889 |



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## Remote controller and Attached set WHX42AD,WHX56AD

| Part Nos. | Part Names | Order Nos. | Q'ty/unit |
|---|---|---|---|
| 751 | RC-7508M Body AD(SE) QPA | QPAJ013 | 1 |
| 752 | M Dressed frame body AD(SE) QPA | QPAA013 | 1 |
| 786 | Oar plug 6X25 | 6339000 | |
| 787 | Cross recessed flat-head screw M4X35 | SHB6879 | |
| 788 | Cross recessed flat-head wood screw (All screw)4.1X20 | SHC6365 | |
| | | | |
| | | | |
| 800 | GQ3211WZ-2AD packing set V | SKA7264 | 1 |
| 803 | Cross recessed round-head type 1 tapping screw 5X35 | SAC6208 | |
| 888 | Owner's Guide GQ-3211WZ-2AD | SAR8227 | 1 |
| 889 | Installation Manual GQ-3211WZ-2AD | SAR8285 | 1 |
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# Specifications

- Specifications may be changed without prior notice.
- The capacity may differ slightly, depending on the water pressure, water supply, piping conditions, and water temperature.

## Specifications

| Item | | Specification | |
|---|---|---|---|
| Model Name | | WHX42 | LWHX42 |
| Type | Installation<br>Air Supply/Exhaust | External, Wall Hanging<br>Power Vented | |
| Ignition | | Direct Ignition | |
| Minimum Pressure for Maximum flow | | 2.0 bar | |
| Minimum Flow Rate | | 3.5 L/min. | |
| Dimensions | | 61.5 cm(Height) x 46.4 cm(Width) x 24 cm(Depth) | |
| Weight | | 30 kg | |
| Water Holding Capacity | | 1.1 Litre | |
| Connection Sizes | Water Inlet | 3/4" | |
| | Hot Water Outlet | 3/4" | |
| | Gas Inlet | 3/4" | |
| Power Supply | Supply | 230V AC (50Hz) | |
| | Consumption | 67W | 66W |
| | | Freeze Prevention 115W | |
| Materials | Casing | Zincified Steel Plate/Polyester Coating | |
| | Flue Collar | Stainless Steel | |
| | Heat Exchanger | Copper Sheeting, Copper Tubing | |
| Safety Devices | | Flame Rod, Thermal Fuse, Pressure Relief Valve, Lightning Protection Device (ZNR), Electric Leakage Prevention Device, Overheat Prevention Device, Freezing Prevention Device, Fan Rotation Detector | |
| Accessories | | Remote Controller, Anchoring Screws | |

## Performance

| Item | | Maximum Performance | Minimum Performance |
|---|---|---|---|
| Gas Consumption (NET) | $I_{2L}$ | 49.0 kW | 5.0 kW |
| | $I_{3P}$ | 49.0 kW | 5.0 kW |
| Hot Water Capacity | 25°C Rise | 24 L/min. | |
| | 58°C Rise | 10 L/min. | |
| Capacity Range | | 3.5 - 24 L/min. | |
| Temperature Settings | | 37 - 48, 50, 55, 60, 65, 70, 75, 80°C | |

# Specifications

| Item | | Specification | |
|---|---|---|---|
| Model Name | | WHX56 | LWHX56 |
| Type | Installation<br>Air Supply/Exhaust | External, Wall Hanging<br>Power Vented | |
| Ignition | | Direct Ignition | |
| Minimum Pressure for Maximum flow | | 2.0 bar | |
| Minimum Flow Rate | | 3.5 L/min. | |
| Dimensions | | 61.5 cm(Height) x 46.4 cm(Width) x 24 cm(Depth) | |
| Weight | | 30 kg | |
| Water Holding Capacity | | 1.1 Litre | |
| Connection Sizes | Water Inlet | 3/4" | |
| | Hot Water Outlet | 3/4" | |
| | Gas Inlet | 3/4" | |
| Power Supply | Supply | 230V AC (50Hz) | |
| | Consumption | 83W | |
| | | Freeze Prevention 115W | |
| Materials | Casing | Zincified Steel Plate/Polyester Coating | |
| | Flue Collar | Stainless Steel | |
| | Heat Exchanger | Copper Sheeting, Copper Tubing | |
| Safety Devices | | Flame Rod, Thermal Fuse, Pressure Relief Valve, Lightning Protection Device (ZNR), Electric Leakage Prevention Device, Overheat Prevention Device, Freezing Prevention Device, Fan Rotation Detector | |
| Accessories | | Remote Controller, Anchoring Screws | |

# Performance

| Item | | Maximum Performance | Minimum Performance |
|---|---|---|---|
| Gas Consumption (NET) | $I_{2L}$ | 62.3 kW | 5.0 kW |
| | $I_{3P}$ | 62.3 kW | 5.0 kW |
| Hot Water Capacity | 25°C Rise | 32 L/min. | |
| | 58°C Rise | 13 L/min. | |
| Capacity Range | | 3.5 - 32 L/min. | |
| Temperature Settings | | 37 - 48, 50, 55, 60, 65, 70, 75, 80°C | |

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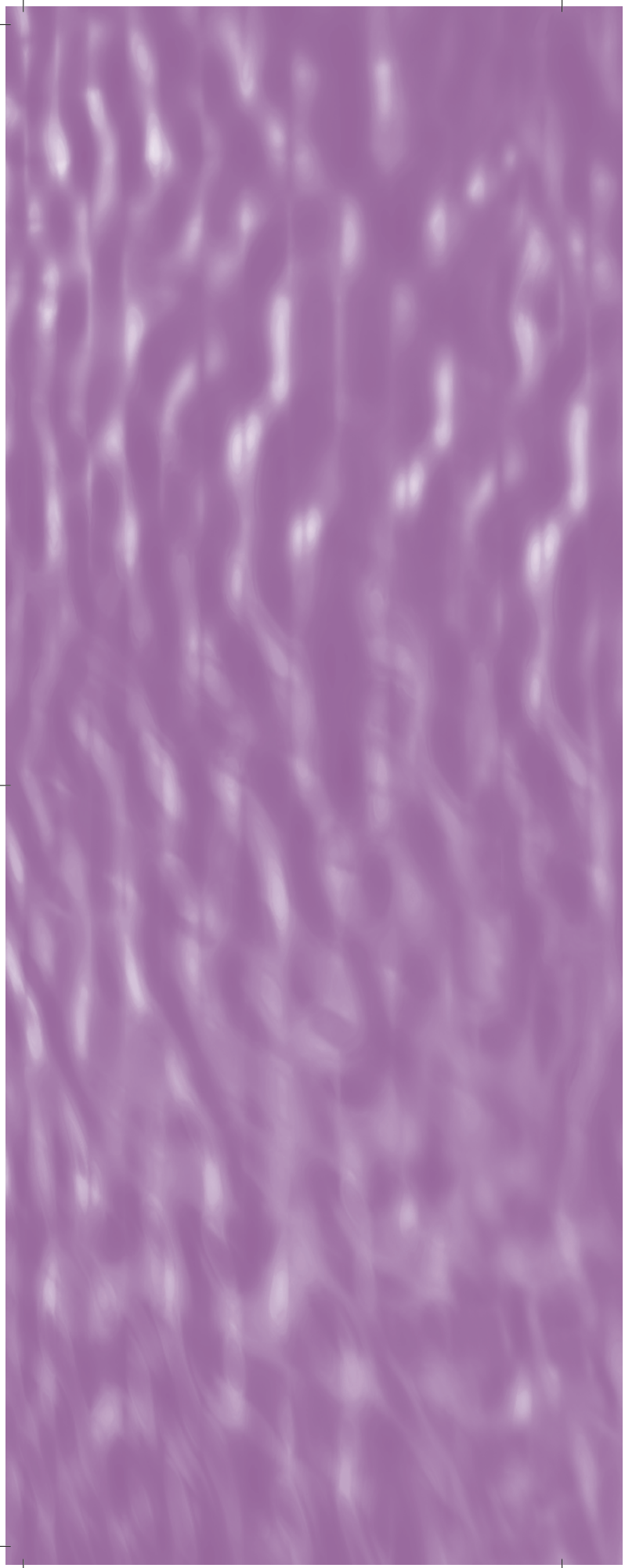

ANDREWS
WATER HEATERS

Andrews Water Heaters
Wednesbury One
Black Country New Road
Wednesbury
West Midlands WS10 7NZ
Tel: +44 (0)121 506 7400
Fax: +44 (0)121 506 7401
Email: andrews@andrews-waterheaters.co.uk
Website: www.andrewswaterheaters.co.uk

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